PROGRAM facts

U.S. DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

Gas Exploration, Production, and Storage

04/2003

ADVANCED DIAGNOSTICS AND IMAGING – LOW PERMEABILITY FORMATIONS

This program area focuses on the development of technology for cost-effective recovery of natural gas from low permeability formations. Emphasis is currently on four major areas:

- Development and demonstration of exploration technologies to predict areas of high natural fracture density that will likely lead to commercial gas production. Projects include: Geomechanical Modeling (Wind River and Anadarko Basins); Multiple Azimuth 3-D Seismic Attributes (San Juan Basin); Integrated 2-D Seismic and Remote Sensing (Appalachian Basin); and a 400-Level, 3-Component Downhole Seismic Reciever Array.

- Research and development of the next generation of fracture detection technology that will advance natural fracture detection methodologies that hold promise for improved characterization of reservoir flow properties in low permeability formations. Five projects will focus on: Multi-component 3-D Seismic/Integrated Reservoir Simulation (San Juan Basin); Multi-Attribute Seismic/Rock Physics (West Texas); Integrated Geomechanical and Reservoir Modeling (Greater Green River Basin and Austin Chalk); Basin Simulation: 3-D Reaction, Transport and Mechanical Model (Austin Chalk and Illinois Basin); and S-Wave Propagation Analysis with Microfracture-Based Verification Technique (Ardmore Basin).

- Improved production technology projects will help optimize infill drilling (San Juan Basin) and validate improved stimulation technologies (East Texas).

- Identification and remediation of high water production problems in basin centered formations (Greater Green River and Wind River Basins).

CONTACT POINTS

Brad Tomer
Product Manager
Gas Exploration, Production, and Storage
304-285-4692
304-285-4469 fax
brad.tomer@netl.doe.gov

Charles M. Zeh
Division Director
Gas Supply Projects
304-285-4265
charles.zeh@netl.doe.gov

James R. Ammer
304-285-4383
james.ammer@netl.doe.gov

STRATEGIC CENTER FOR NATURAL GAS WEBSITE

www.netl.doe.gov/scng

Advanced Diagnostics and Imaging – Low Permeability Formations

ADDRESS

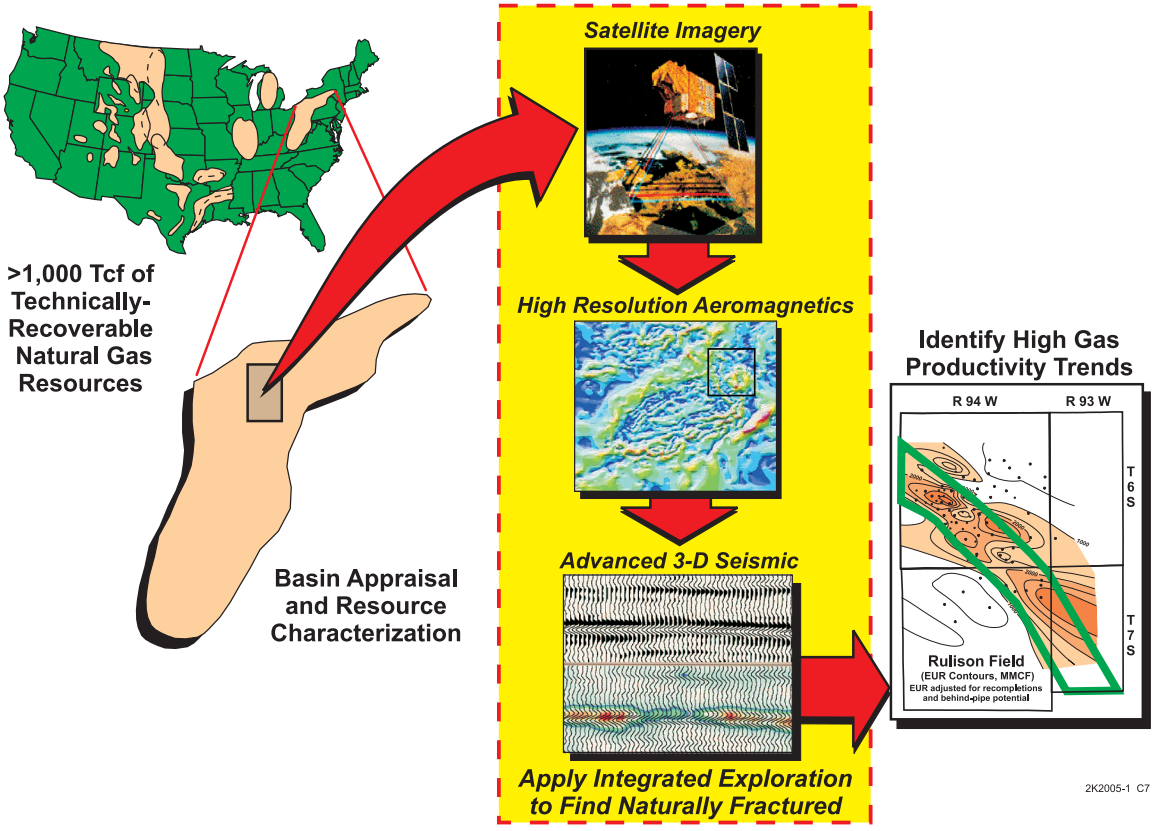
National Energy Technology Laboratory
3610 Collins Ferry Road
P.O. Box 880
Morgantown, WV 26507-0880
304-285-4469 fax

626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, PA 15236-0940
412-386-4604 fax

Current Activities

- Gas System Analysis Model (GSAM) Development
- Offshore Secondary Natural Gas Recovery Potential Studies
- Geological Characterization/Resource Assessment of Tight, Basin Centered and Deep Sedimentary Basin Gas Potential

Integrated Exploration Methodology



Prog030.pmd